

- Rule 1,26*
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- a) an auctioneer's system and at least two user systems, the auctioneer's system communicatively coupled to user systems;
- b) said user systems including:
- b1) means for receiving messages from the auctioneer's system and for displaying those messages;
- b2) means for receiving bid related information from users, said information including bids for television licenses or associated derivative rights; and
- b3) means for transmitting bid information to the auctioneer's system; and
- c) said auctioneer's system including:
- c1) means for generating and transmitting messages to user systems, said messages including a non-final message indicating that an auction will continue and a final message indicating that an auction has terminated;
- c2) means for receiving bid information from user systems; and
- c3) decision means responsive to the bid information received from the user systems for determining whether an auction should continue or terminate, said decision means including:
- c31) means to initiate the generation of a non-final message to at least one user system in response to a determination to continue an auction; and
- c32) means to initiate the generation of a final message to at least one user system in response to a determination to terminate an auction.

54. A system as recited in claim 53 wherein the bid information includes a value parameter P_i and an associated license subset identification S_i , where the license subset identification S_i identifies a set of licenses and where the value parameter P_i specifies a payment proposed by the user in return for the licenses of subset S_i .

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55. A system as recited in claim 54 wherein the decision means includes a selecting means to select an n-tuple of bids (S_i, P_i), at most one from each user system, which selection is effective to optimize the sum of the different value parameters P_i of the selected bids subject to the constraint that the associated subsets S_i of all of the selected bids are compatible.

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24 56. A system as recited in claim 54 wherein the decision means selects bids to optimize the sum of the different value parameters P_i of the selected bids subject to the constraint that the associated subsets S_i of every pair of selected bids are disjoint.

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25 57. A system as recited in claim 53 wherein the auction is conducted in multiple rounds.

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26 58. A system as recited in claim 56 wherein the auction is conducted in multiple rounds.

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59. A system as recited in claim 58 wherein the decision means compares the sum of the parameters P_i from the selected bids to a function of the sum of the parameters P_i of an earlier round of selected bids.

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28 60. A method for conducting a computer implemented auction of television licenses or associated derivative rights to a plurality of users comprising:

- a) providing an auctioneer's system;
- b) receiving bid related information from users, said information including bids for television licenses or associated derivative rights, and transmitting bid information to the auctioneer's system;
- c) determining at the auctioneer's system, in response to the bid information received from users, whether the auction should continue or terminate;

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- d) transmitting a message indicating that the auction will continue to at least one user, in response to a determination to continue the auction; and
 - e) transmitting a message indicating that the auction will terminate to at least one user, in response to a determination to terminate the auction.

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~~61~~ A method as recited in claim ~~60~~ ²⁸ wherein the bid information includes a value parameter P_i and an associated license subset identification S_i , where the license subset identification S_i identifies a set of licenses and where the value parameter P_i specifies a payment proposed by the user in return for the licenses of subset S_i .

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~~62~~ A method as recited in claim ~~61~~ ²⁹ wherein the determining includes selecting an n-tuple of bids (S_i, P_i) , at most one from each user system, which selection is effective to optimize the sum of the different value parameters P_i of the selected bids subject to the constraint that the associated subsets S_i of all of the selected bids are compatible.

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~~63~~ A method as recited in claim ~~61~~ ²⁹ wherein the determining selects bids to optimize the sum of the different value parameters P_i of the selected bids subject to the constraint that the associated subsets S_i of every pair of selected bids are disjoint.

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~~64~~ A method as recited in claim ~~60~~ ²⁹ wherein the auction is conducted in multiple rounds.

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~~65~~ A method as recited in claim ~~61~~ ²⁹ wherein the auction is conducted in multiple rounds.

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~~34~~ 33 66. A method as recited in claim ~~65~~ wherein the determining compares the sum of the parameters P_i from the selected bids to a function of the sum of the parameters P_i of an earlier round of selected bids.

~~35~~ 67. A system for conducting a computer implemented auction of television licenses or associated derivative rights, said system including a plurality of user systems operated by bidders and an auctioneer's system, the auctioneer's system being communicatively coupled to a plurality of user systems, comprising:

- a) means for receiving bid information for the television licenses or associated derivative rights from bidders at a plurality of user systems,
- b) means for transmitting signals based on the bid information from user systems to the auctioneer's system, and
- c) means for determining, based on the signals, the television licenses or associated derivative rights to be assigned to the bidders.

~~36~~ 35 68. A system as recited in claim ~~67~~ wherein the bid information includes a value parameter P_i and an associated license subset identification S_i , where the license subset identification S_i identifies a set of licenses and where the value parameter P_i specifies a payment proposed by the user in return for the licenses of subset S_i .

~~37~~ 36 69. A system as recited in claim ~~68~~ wherein the decision means includes a selecting means to select an n-tuple of bids (S_i, P_i), at most one from each user system, which selection is effective to optimize the sum of the different value parameters P_i of the selected bids subject to the constraint that the associated subsets S_i of all of the selected bids are compatible.

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70. A system as recited in claim 38 wherein the decision means selects bids to optimize the sum of the different value parameters P_i of the selected bids subject to the constraint that the associated subsets S_i of every pair of selected bids are disjoint.

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71. A system as recited in claim 37 wherein the auction is conducted in multiple rounds.

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72. A system as recited in claim 70 wherein the auction is conducted in multiple rounds.

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73. A system as recited in claim 72 wherein the decision means compares the sum of the parameters P_i from the selected bids to a function of the sum of the parameters P_i of an earlier round of selected bids.

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74. A method for conducting a computer implemented auction of television licenses or associated derivative rights in a system including a plurality of user systems operated by bidders and an auctioneer's system, the auctioneer's system being communicatively coupled to a plurality of user systems, the method comprising:

- a) receiving bid information for the television licenses or associated derivative rights from bidders at a plurality of user systems,
- b) transmitting signals based on the bid information from user systems to the auctioneer's system, and
- c) determining, based on the signals, the television licenses or associated derivative rights to be assigned to the bidders.

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75. A method as recited in claim 74 wherein the bid information includes a value parameter P_i and an associated license subset identification S_i , where the license subset

identification S_i identifies a set of licenses and where the value parameter P_i specifies a payment proposed by the user in return for the licenses of subset S_i .

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76. A method as recited in claim 75 wherein the determining includes selecting an n-tuple of bids (S_i, P_i), at most one from each user system, which selection is effective to optimize the sum of the different value parameters P_i of the selected bids subject to the constraint that the associated subsets S_i of all of the selected bids are compatible.

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77. A method as recited in claim 75 wherein the determining selects bids to optimize the sum of the different value parameters P_i of the selected bids subject to the constraint that the associated subsets S_i of every pair of selected bids are disjoint.

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78. A method as recited in claim 74 wherein the auction is conducted in multiple rounds.

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79. A method as recited in claim 77 wherein the auction is conducted in multiple rounds.

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80. A method as recited in claim 79 wherein the determining compares the sum of the parameters P_i from the selected bids to a function of the sum of the parameters P_i of an earlier round of selected bids.

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81. A computer system for implementing an auction of television licenses or associated derivative rights, said auction including a plurality of bidders, comprising:

a) means for inputting, into the computer, bids for television licenses or associated derivative rights;

- b) means for determining, based on the bids, an allocation of television licenses or associated derivative rights to bidders; and
- c) means for outputting, from the computer, the allocation of television licenses or associated derivative rights to bidders.

~~50~~ ⁴⁹
~~82~~ A system as recited in claim ~~81~~ wherein the auction is conducted in multiple rounds.

~~51~~ ⁴⁹
~~83~~ A system as recited in claim ~~81~~ wherein the bids include a value parameter P_i and an associated license subset identification S_i , where the license subset identification S_i identifies a set of licenses and where the value parameter P_i specifies a payment proposed by the user in return for the licenses of subset S_i .

~~52~~ ⁴⁹
~~84~~ A method for using a computer to implement an auction of television licenses or associated derivative rights, said auction including a plurality of bidders, comprising:

- a) inputting, into the computer, bids for television licenses or associated derivative rights;
- b) determining, based on the bids, an allocation of television licenses or associated derivative rights to bidders; and
- c) outputting, from the computer, the allocation of television licenses or associated derivative rights to bidders.

~~53~~ ⁵²
~~85~~ A method as recited in claim ~~84~~ wherein the auction is conducted in multiple rounds.

~~54~~ ⁵²
~~86~~ A method as recited in claim ~~84~~ wherein the bids include a value parameter P_i and an associated license subset identification S_i , where the license subset identification S_i identifies